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EXAMINER

HALIYUR, VENKATESH N

ART UNIT	PAPER NUMBER
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2476

NOTIFICATION DATE	DELIVERY MODE
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11/24/2010

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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Office Action Summary	Application No. 10/084,019	Applicant(s) TIEDEMANN ET AL.	
	Examiner VENKATESH HALIYUR	Art Unit 2476	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 September 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-44 (claims 1-7, 14, 19 & 25-27 canceled) is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 13, 18 and 44 is/are allowed.
- 6) ☒ Claim(s) 8, 9, 11, 12, 15-17, 20, 21, 23, 28-29, 31-37, 39-42, is/are rejected.
- 7) ☒ Claim(s) 10, 22, 24, 30, 38, 43 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. The amendment filed on 09/13/2010 has been considered. However the amendments necessitated new ground(s) of rejection. Rejection follows.
2. Claims 1-44 are pending in the application. Claims 1-7, 14, 19, and 25-27 are canceled.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 12, 31-37, 39-42 are rejected under 35 U.S.C. 103(a) as being anticipated by DeMartin et al [US Pat: 6,421,527] and Ling [US Pat: 5,216,692] and Kamel et al [US Pat: 6,285,886] and Budka et al [US Pat: 6,856,812] further in view of Baum et al.[US Pat:6,865,393].

Regarding claims 12,31,41, DeMartin et al in the invention of “System for Dynamic Adaptation of Data/Channel Coding in Wireless Communications” disclosed in a wireless communication system (**Figs 1-3, col 1, lines 45-50**) for processing voice communications and packet-switched communications, a base station (**BS of Fig 3, col 2, lines 8-28**) comprising: receive circuitry (**Figs 2-3**) operative to receive signals on a reverse link (**up link, col 3, lines 19-47, Figs 3**), including quality message with parity checks at a first rate (**differential coding for channel measurement with 1 bit parity check for different channel grade, col 4, lines 8-31, col 6, lines 1-43, Fig 1**), and differential indicators at a second rate (**channel grade indicators**), each quality message periodically providing a quality metric of a forward link (**down link C/I measurements, col 3, lines 66-67,col 4, lines 1-8**), wherein the differential indicators track the quality metric between successive quality messages (**moving average of the quality indicator C/I of the channel, col 4, lines 48-55**); a memory storage unit operative to store each quality message received on the reverse link (**item 63 of Fig 4, col 4, lines 56-65**); and a differential analyzer (**item 39 of Fig 2, channel analysis with delta modulation**) to update each of the received quality message stored in the memory storage unit in response to the differential indicators and the parity check (**col 5, lines 64-67,col 6, lines 1-44**). DeMartin et al disclosed receive circuitry (**Fig 3**) operative to receive signals on a reverse link (**up-link**), including a quality message with a parity check (**measurement bit**) with channel grade quality indicators, but fails to positively disclose that the quality message periodically providing a quality metric of a forward link, wherein the differential indicators track the quality metric between

successive quality messages. However, Ling in the invention of "A method and apparatus for adjusting a power control threshold in a communication system" disclosed a method for receiving the quality message periodically providing a quality metric of a forward link, wherein the differential indicators **(indicator is set based on difference signal)** track the quality metric between successive quality messages received at the receiver **(Receiver circuitry, item 100 of Fig 1, col 5, lines 35-67, col 6, lines 1-21, col 7, lines 26-56, Figs 1-2)**. Therefore it would have been obvious for one of the ordinary skill in the art at the time the invention was made to use the method of receiving quality message periodically providing a quality metric of a forward link, wherein the indicator is set based on difference signal to track the quality metric between successive quality messages received as taught by Ling in the system of DeMartin et al to receive the quality message periodically providing a quality metric of a forward link, wherein the differential indicators track the quality metric between successive quality messages. However, both DeMartin and Ling fails to disclose determining a first transmission rate for transmission of quality messages and a second transmission rate for transmitting differential indicators, However, Kamel et al disclosed a method wherein a first transmission rate for transmission of quality messages and a second transmission rate for transmitting differential indicators **(col 5, lines 20-51, col 9, lines 55-67, col 10, lines 1-30, Figs 1-4)**. Therefore it would have been obvious for one of the ordinary skill in the art at the time the invention was made to use the method wherein a first transmission rate for transmission of quality messages and a second transmission rate for transmitting differential indicators of as taught by Kamel in the

system of DeMartin as modified by Ling to include the method wherein a first transmission rate for transmission of quality messages and a second transmission rate for transmitting differential indicators.

DeMartin, Ling and Kamel fail to disclose the feature of transmitting the differential indicators in the quality message and the second frequency (rate) is different than first frequency (rate). However, Budka et al disclosed the feature of transmitting the differential indicators in the quality message (**col 13, lines 60-67, col 14, lines 1-5, Figs 1, 4, 5**) and the second frequency (rate) is different than first frequency (rate) (**col 12, lines 65-67, col 13, lines 1-20**). Therefore it would have been obvious for one of the ordinary skill in the art at the time the invention was made to use the method for transmitting the differential indicators and the second frequency (rate) is different than first frequency (rate) in the quality message as taught by Budka in the system of DeMartin as modified by Ling and Kamel to include the feature of transmitting the differential indicators in the quality message and the second frequency (rate) is different than first frequency (rate).

DeMartin, Ling, Kamel, Budka fail to disclose the limitation wherein the second transmission rate is greater than the first transmission rate. However, Baum disclosed a method for transmitting the quality information at different rates using a data rate profiling for transmitting quality characteristics (**Fig 1, item 118 of Fig 1, col 3, lines 45-64**) and Baum further disclosed the method wherein the second transmission rate is greater than the first transmission rate based on the determination of the link quality (**col 16, lines 40-54**). Therefore it would have been obvious for one of the ordinary skill

in the art at the time the invention is made to use the method of transmitting quality message and differential indicators at different transmission rates wherein the second transmission rate is greater than the first transmission rate as taught by Baum in the system of DeMartin as modified by Ling, Kamel, Budka to include the feature of transmitting quality message and differential indicators at different transmission rates wherein the second transmission rate is greater than the first transmission rate.

One is motivated as such in order to provide a method wherein a first transmission rate for transmission of quality messages and a second transmission rate for transmitting differential indicators wherein the second transmission rate is greater than the first transmission rate to accurately adjust signal power levels of the transmitting channels to minimize noise in wireless communication systems.

Regarding claims 32-33, DeMartin et al disclosed wherein each quality message includes carrier to interference information of a received signal at a receiver and wherein each differential indicator is at least one bit (**DeMartin, col 4, lines 49-55, Fig 2, item 39 of Fig 2, Kamel, col 4, lines 44-52**).

Regarding claims 34-35, DeMartin et al, Ling fail to disclose wherein the quality, messages are transmitted via a gated channel and wherein the differential indicators are transmitted via a continuous channel. However, Kamel disclosed wherein the quality, messages are transmitted via a gated channel (**data channel, col 4, lines 36-43**) and Budka disclosed wherein the differential indicators are transmitted via a continuous channel (**col 11, lines 15-26, Figs 4, 5**). Therefore it would have been obvious for one of the ordinary skill in the art at the time the invention was made to use

the method wherein the quality, messages are transmitted via a gated channel as taught by Kamel and wherein the differential indicators are transmitted via a continuous channel as taught by Budka in the system of DeMartin as modified by Ling, Kamel and Baum to include the feature of messages are transmitted via a gated channel and wherein the differential indicators are transmitted via a continuous channel. One is motivated as such in order to provide an efficient and accurate power control method for transmission of quality messages that are transmitted via a gated channel and the differential indicators are transmitted via a continuous channel.

Regarding claim 36, DeMartin et al disclosed estimating a channel condition over a first time window (**moving average, col 4, lines 49-55**); comparing the estimated channel condition to a first threshold value (**thresholds, col 4, lines 56-67, col 5, lines 1-10**); determining a transmission rate for transmission of quality messages based on the comparison, and transmitting quality messages at the transmission rate (**col 4, lines 11-13**).

Regarding claim 37, DeMartin et al disclosed wherein the first time window is dynamically adjusted based on operation of the system (**moving average, col 4, lines 49-55, col 2, lines 8-12**).

Regarding claim 39, DeMartin et al disclosed determining an average channel condition among a plurality of carriers (**col 5, lines 37-50**); comparing the average channel condition to a first threshold value (**thresholds, col 4, lines 56-67, col 5, lines 1-10**); determining a transmission rate for transmission of quality messages based on

the comparison; and transmitting quality messages at the transmission rate (**col 4, lines 11-13**).

Regarding claim 40, DeMartin et al disclosed assigning a weight to each of the plurality of carriers, wherein the average channel condition is a weighted average (**col 5, lines 26-40**).

Regarding claim 42, DeMartin et al disclosed wherein the link quality is measured as carrier to interference of a received signal (**col 4, lines 59-55**).

5. Claims 8-9,11, 15-17, 20-21, 23, 28-29, are rejected under 35 U.S.C. 103(a) as being unpatentable over Chennakeshu et al [US Pat: 5,905,742] and Kamel et al [US Pat: 6,285,886] and Ling [US Pat: 5,216,692] and Budak et al [US Pat: 6,856,812] further in view of Baum et al.[US Pat:6,865,393]..

Regarding claims 8,11,28, Chennakeshu et al in the invention of “Method and Apparatus for Channel Symbol Decoding” disclosed in a wireless communication system (**Figs 2-4**) , a method comprising: estimating a channel condition over a first time window (**channel quality measured over a holding window, col 9, lines 18-29, Fig 4**); comparing the estimated channel condition to a first threshold value (**col 9, lines 30-39**); Chennakeshu et al disclosed transmitting differential indicators (**channel quality indicator, col 5, lines 1-15**) based on the comparison (**col 8, lines 14-67,1-17**) and transmitting differential indicators with quality messages (**col 6, lines 30-36, col 12, lines 19-37, col 12, lines, 46-54, Figs 2A/B**) but fails to disclose determining a first transmission rate for transmission of quality messages and a second transmission rate

Art Unit: 2476

for transmitting differential indicators, However, Kamel et al disclosed a method for determining a first transmission rate for transmission of quality messages and a second transmission rate for transmitting differential indicators (**col 5, lines 20-51, col 9, lines 55-67, col 10, lines 1-30, Figs 1-4**). Therefore it would have been obvious for one of the ordinary skill in the art at the time the invention was made to use the method of determining a first transmission rate for transmission of quality messages and a second transmission rate for transmitting differential indicators as taught by Kamel et al in the system of Chennakeshu et al to determine a transmission rate for transmission of quality messages. Kamel et al disclosed transmitting incremental change of the first and second quality measurement independently (**col 5, lines 45-51**), but both Chennakeshu and Kamel fails to positively disclose wherein transmitting differential indicators based on the comparison and transmitting differential indicators independently of quality messages. However, Ling disclosed a method for transmitting the differential indicators (**indicator is set based on difference signal, Figs 1-2**) with quality messages (**power control indicator is transmitted every 1.25ms, col 5, lines 35-67, col 6, lines 1-21**). Therefore it would have been obvious for one of the ordinary skill in the art at the time the invention was made to use the method of transmitting the differential indicators independent of quality messages as taught by Ling in the system of Chennakeshu et al as modified by Kamel to include the method of transmitting differential indicators based on the comparison and transmitting differential indicators independently of quality messages.

Chennakeshu, Ling and Kamel fail to disclose the feature of transmitting the differential indicators in the quality message. However, Budak et al disclosed the feature of transmitting the differential indicators in the quality message (**col 13, lines 60-67, col 14, lines 1-5, Figs 1, 4, 5**). Therefore it would have been obvious for one of the ordinary skill in the art at the time the invention was made to use the method for transmitting the differential indicators in the quality message as taught by Budak in the system of Chennakeshu as modified by Ling and Kamel to include the feature of transmitting the differential indicators in the quality message.

Chennakeshu, Ling, Kamel, Budka fail to disclose the limitation wherein the second transmission rate is greater than the first transmission rate. However, Baum disclosed a method for transmitting the quality information at different rates using a data rate profiling for transmitting quality characteristics (**Fig 1, item 118 of Fig 1, col 3, lines 45-64**) and Baum further disclosed the method wherein the second transmission rate is greater than the first transmission rate based on the determination of the link quality (**col 16, lines 40-54**). Therefore it would have been obvious for one of the ordinary skill in the art at the time the invention is made to use the method of transmitting quality message and differential indicators at different transmission rates wherein the second transmission rate is greater than the first transmission rate as taught by Baum in the system of Chennakeshu as modified by Ling, Kamel, Budka to include the feature of transmitting quality message and differential indicators at different transmission rates wherein the second transmission rate is greater than the first transmission rate.

One is motivated as such in order to provide a method wherein a first transmission rate for transmission of quality messages and a second transmission rate for transmitting differential indicators wherein the second transmission rate is greater than the first transmission rate to accurately adjust signal power levels of the transmitting channels to minimize noise in wireless communication systems.

Regarding claim 9, Chennakeshu et al disclosed wherein the first time window is dynamically adjusted based on operation of the system (**col 9, lines 61-67, col 10, lines 1-9**).

Regarding claim 15, Chennakeshu et al disclosed a wireless apparatus (**Fig 2/6**), comprising: processing unit (**item 39 of Fig 2, item 52 of Fig 6**), operative for executing computer-readable instructions (logic); and a memory storage unit (**item 50 of Fig 6**) adapted to store a plurality of computer-readable instructions for: estimating a channel condition over a first time window (**channel quality measured over a holding window, col 9, lines 18-29, Fig 4**); comparing the estimated channel condition to a first threshold value (**col 9, lines 30-39**); Chennakeshu et al disclosed transmitting differential indicators based on the comparison (**col 8, lines 14-67, 1-17**) and transmitting differential indicators with quality messages (**col 6, lines 30-36, col 12, lines 19-37, lines, col 12, lines, 46-54, Figs 2A/B**) but fails to disclose determining a first transmission rate for transmission of quality messages and a second transmission rate for transmitting differential indicators, However, Kamel et al disclosed a method for determining a first transmission rate for transmission of quality messages and a second transmission rate for transmitting differential indicators (**col 5, lines 20-51, col 9, lines**

55-67, col 10, lines 1-30, Figs 1-4). Therefore it would have been obvious for one of the ordinary skill in the art at the time the invention was made to use the method of determining a first transmission rate for transmission of quality messages and a second transmission rate for transmitting differential indicators as taught by Kamel et al in the system of Chennakeshu et al to determine a transmission rate for transmission of quality messages. Kamel et al disclosed transmitting incremental change of the first and second quality measurement independently (**col 5, lines 45-51**), but both Chennakeshu and Kamel fails to positively disclose wherein transmitting differential indicators based on the comparison and transmitting differential indicators independently of quality messages. However, Ling disclosed a method for transmitting the differential indicators (**indicator is set based on difference signal, Figs 1-2**) with quality messages (**power control indicator is transmitted every 1.25ms, col 5, lines 35-67, col 6, lines 1-21**). Therefore it would have been obvious for one of the ordinary skill in the art at the time the invention was made to use the method of transmitting the differential indicators independent of quality messages as taught by Ling in the system of Chennakeshu et al as modified by Kamel to include the method of transmitting differential indicators based on the comparison and transmitting differential indicators independently of quality messages.

Chennakeshu, Ling and Kamel fail to disclose the feature of transmitting the differential indicators in the quality message. However, Budak et al disclosed the feature of transmitting the differential indicators in the quality message (**col 13, lines 60-67, col 14, lines 1-5, Figs 1, 4, 5**). Therefore it would have been obvious for one of

the ordinary skill in the art at the time the invention was made to use the method for transmitting the differential indicators in the quality message as taught by Budak in the system of Chennakeshu as modified by Ling and Kamel to include the feature of transmitting the differential indicators in the quality message.

Chennakeshu, Ling, Kamel, Budka fail to disclose the limitation wherein the second transmission rate is greater than the first transmission rate. However, Baum disclosed a method for transmitting the quality information at different rates using a data rate profiling for transmitting quality characteristics (**Fig 1, item 118 of Fig 1, col 3, lines 45-64**) and Baum further disclosed the method wherein the second transmission rate is greater than the first transmission rate based on the determination of the link quality (**col 16, lines 40-54**). Therefore it would have been obvious for one of the ordinary skill in the art at the time the invention is made to use the method of transmitting quality message and differential indicators at different transmission rates wherein the second transmission rate is greater than the first transmission rate as taught by Baum in the system of Chennakeshu as modified by Ling, Kamel, Budka to include the feature of transmitting quality message and differential indicators at different transmission rates wherein the second transmission rate is greater than the first transmission rate. One is motivated as such in order to improve data transmission quality by estimating channel condition based on a first transmission rate for transmission of quality messages and a second transmission rate for transmitting differential indicators wherein the second transmission rate is greater than the first

transmission rate to accurately adjust signal power of the measured channels to minimize noise in wireless communication systems.

Regarding claim 16, Chennakeshu et al disclosed that the wireless communication system supporting a plurality of carriers (**plurality of Figs 2-4, col 11, lines 14-31**), a method comprising: determining an average channel condition among the plurality of carriers (**channel quality measured over a holding window, col 8, lines 36-67, Fig 4**); comparing the average channel condition to a first threshold value (**col 9, lines 1-29**); Chennakeshu et al disclosed transmitting differential indicators based on the comparison (**col 8, lines 14-67, 1-17**) and transmitting differential indicators with quality messages (**col 6, lines 30-36, col 12, lines, 46-54, Figs 2A/B**) but fails to disclose determining a first transmission rate for transmission of quality messages and a second transmission rate for transmitting differential indicators, However, Kamel et al disclosed a method for determining a first transmission rate for transmission of quality messages and a second transmission rate for transmitting differential indicators (**col 5, lines 20-51, col 9, lines 55-67, col 10, lines 1-30, Figs 1-4**). Therefore it would have been obvious for one of the ordinary skill in the art at the time the invention was made to use the method of determining a first transmission rate for transmission of quality messages and a second transmission rate for transmitting differential indicators as taught by Kamel et al in the system of Chennakeshu et al to determine a transmission rate for transmission of quality messages. Kamel et al disclosed transmitting incremental change of the first and second quality measurement independently (**col 5, lines 45-51**), but both Chennakeshu and Kamel fails to positively

disclose wherein transmitting differential indicators based on the comparison and transmitting differential indicators independently of quality messages. However, Ling disclosed a method for transmitting the differential indicators **(indicator is set based on difference signal, Figs 1-2)** with quality messages **(power control indicator is transmitted every 1.25ms, col 5, lines 35-67, col 6, lines 1-21)**. Therefore it would have been obvious for one of the ordinary skill in the art at the time the invention was made to use the method of transmitting the differential indicators independent of quality messages as taught by Ling in the system of Chennakeshu et al as modified by Kamel to include the method of transmitting differential indicators based on the comparison and transmitting differential indicators independently of quality messages.

Chennakeshu, Ling and Kamel fail to disclose the feature of transmitting the differential indicators in the quality message. However, Budak et al disclosed the feature of transmitting the differential indicators in the quality message **(col 13, lines 60-67, col 14, lines 1-5, Figs 1, 4, 5)**. Therefore it would have been obvious for one of the ordinary skill in the art at the time the invention was made to use the method for transmitting the differential indicators in the quality message as taught by Budak in the system of Chennakeshu as modified by Ling and Kamel to include the feature of transmitting the differential indicators in the quality message.

Chennakeshu, Ling, Kamel, Budka fail to disclose the limitation wherein the second transmission rate is greater than the first transmission rate. However, Baum disclosed a method for transmitting the quality information at different rates using a data rate profiling for transmitting quality characteristics **(Fig 1, item 118 of Fig 1, col 3,**

lines 45-64) and Baum further disclosed the method wherein the second transmission rate is greater than the first transmission rate based on the determination of the link quality (**col 16, lines 40-54**). Therefore it would have been obvious for one of the ordinary skill in the art at the time the invention is made to use the method of transmitting quality message and differential indicators at different transmission rates wherein the second transmission rate is greater than the first transmission rate as taught by Baum in the system of Chennakeshu as modified by Ling, Kamel, Budka to include the feature of transmitting quality message and differential indicators at different transmission rates wherein the second transmission rate is greater than the first transmission rate. One is motivated as such in order to improve data transmission quality by estimating channel condition based on a first transmission rate for transmission of quality messages and a second transmission rate for transmitting differential indicators wherein the second transmission rate is greater than the first transmission rate to accurately adjust signal power of the measured channels to minimize noise in wireless communication systems.

Regarding claim 17, Chennakeshu et al disclosed assigning a weight to each of the plurality of carriers, wherein the average channel condition is a weighted average (**col 11, lines 32-56**).

Regarding claims 20, Chennakeshu et al disclosed a wireless apparatus (**Figs 2/6**), comprising: a quality measurement unit configured to estimate a channel condition (**highest quality indicator**) over a first time window (**col 5, lines 1-15**); a differential analyzer (**item 48 of Fig 2, signal tracker**) configured to compare the estimated

channel condition to a first threshold value (**stages, col 9, lines 18-61, Fig 4**);

Chennakeshu et al disclosed controller (**Figs 2A/B**) configured to transmit differential indicators based on the comparison (**col 8, lines 14-67,1-17**) and transmitting differential indicators with quality messages (**col 6, lines 30-36, col 12, lines 19-37, col 12, lines, 46-54, Figs 2A/B**) but fails to disclose that the that the controller is configured to determine a first transmission rate for transmission of quality messages and a second transmission rate for transmission of the differential indicators based on the comparison, the differential analyzer further configured to generate quality messages at the first transmission rate, the differential analyzer further configured to transmit differential indicators at the second transmission rate independently of quality messages, However, Kamel et al disclose that the that the controller (**Fig 1**) configured to determine a first transmission rate for transmission of quality messages and a second transmission rate for transmission of the differential indicators based on the comparison, the differential analyzer (**col 2, lines 15-65, col 7, lines 31-60, Fig 3**) further configured to generate quality messages at the first transmission rate, the differential analyzer further configured to transmit differential indicators at the second transmission rate (**col 5, lines 20-51, col 9, lines 55-67, col 10, lines 1-30, Figs 1-4**). Therefore it would have been obvious for one of the ordinary skill in the art at the time the invention was made to use the method of controller is configured to determine a first transmission rate for transmission of quality messages and a second transmission rate for transmission of the differential indicators based on the comparison, the differential analyzer further configured to generate quality messages at the first transmission rate, the differential

analyzer further configured to transmit differential indicators at the second transmission rate as taught by Kamel in the system of Chennakeshu et al to determine a first transmission rate for transmission of quality messages and a second transmission rate for transmission of the differential indicators. Kamel et al disclosed transmitting incremental change of the first and second quality measurement independently (**col 5, lines 45-51**), but both Chennakeshu and Kamel fails to positively disclose wherein transmitting differential indicators based on the comparison and transmitting differential indicators independently of quality messages. However, Ling disclosed a method for transmitting the differential indicators (**indicator is set based on difference signal, Figs 1-2**) with quality messages (**power control indicator is transmitted every 1.25ms, col 5, lines 35-67, col 6, lines 1-21**). Therefore it would have been obvious for one of the ordinary skill in the art at the time the invention was made to use the method of transmitting the differential indicators independent of quality messages as taught by Ling in the system of Chennakeshu et al as modified by Kamel to include the method of transmitting differential indicators based on the comparison and transmitting differential of transmitting the differential indicators in the quality message.

Chennakeshu, Ling, Kamel, Budka fail to disclose the limitation wherein the second transmission rate is greater than the first transmission rate. However, Baum disclosed a method for transmitting the quality information at different rates using a data rate profiling for transmitting quality characteristics (**Fig 1, item 118 of Fig 1, col 3, lines 45-64**) and Baum further disclosed the method wherein the second transmission rate is greater than the first transmission rate based on the determination of the link

Art Unit: 2476

quality (**col 16, lines 40-54**). Therefore it would have been obvious for one of the ordinary skill in the art at the time the invention is made to use the method of transmitting quality message and differential indicators at different transmission rates wherein the second transmission rate is greater than the first transmission rate as taught by Baum in the system of Chennakeshu as modified by Ling, Kamel, Budka to include the feature of transmitting quality message and differential indicators at different transmission rates wherein the second transmission rate is greater than the first transmission rate. One is motivated as such in order to improve data transmission quality by estimating channel condition based on a first transmission rate for transmission of quality messages and a second transmission rate for transmitting differential indicators wherein the second transmission rate is greater than the first transmission rate to accurately adjust signal power of the measured channels to minimize noise in wireless communication systems.

Regarding claims 21, 23, 29 Chennakeshu et al means for dynamically adjusting the first window based on operation of the system (**col 9, lines 18-27**).

Allowable Subject Matter

6. Claims 10, 22, 24, 30, 38, 43, are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 13, 18, 44 are allowed over prior art.

Response to Arguments

7. Applicant's argument, see remarks filed on 09/13/2010 with respect to claims 1-44 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

8. Applicant's argument, see remarks, filed on 03/11/2010, with respect to rejection of claims 1-30 have been fully considered but are moot in view of the new grounds of rejections. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. Any inquiry concerning this communication or earlier communications should be directed to the attention to Venkatesh Haliyur whose phone number is 571-272-8616. The examiner can normally be reached on Monday-Friday from 9:00AM to 5:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ayaz Sheikh can be reached @ (571)-272-3795. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the group receptionist whose telephone number is (571)-272-2600 or fax to 571-273-8300.

10. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197(toll-free).

/Venkatesh Haliyur/

Examiner, Art Unit 2476

/Salman Ahmed/

Primary Examiner, Art Unit 2476